# Characterizing Genericity and Epistemic Commitments

*Jon Ander Mendia & Hana Filip, Heinrich-Heine University Düsseldorf*

**<u>Introduction.</u>** Since Krifka et al. (1995), genericity is commonly divided into two main domains: KIND predications, expressing generalizations about kinds which their individual members cannot have (1a), and GENERIC CHARACTERIZING STATEMENTS ((1b), (1c)), which express generalizations over a set of entities/situations.

(1)  a. Dinosaurs are extinct.    b. Birds fly.    c. John smokes after dinner.

We focus on characterizing generics, which raise the following key question (e.g., Carlson 1995): Can we provide a unified semantics for all characterizing generics? That there is no agreement on its answer has to do with formidable challenges posed by two hallmark properties of characterizing generics. The first concerns the variable status of their EXCEPTIONS: namely, some generics sanction them ((1c) is true even if John does **not** smoke after **each** dinner), some prohibit them (2a), while others systematically 'integrate' them ((2b) is true even if 99% of mosquitoes do **not** carry malaria). The second is their INTENSIONALITY (Lawler 1973): characterizing generics may express what is merely possible, and never realized (e.g., (2c) under a purely dispositional interpretation), or a matter of some stipulation or rule (2a).
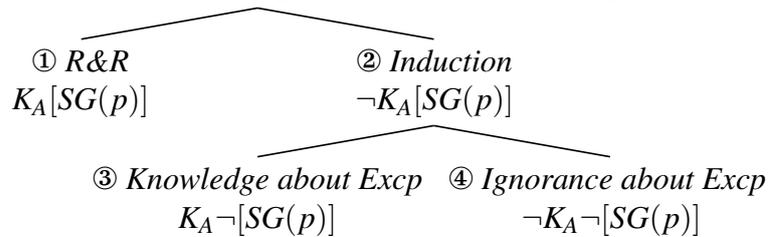
(2)  a. Triangles have three sides.    c. This machine crushes oranges.
      b. Mosquitoes carry malaria.

As many agree, such data present difficulties for any reductionist analysis of generics in terms of a single (extensional) quantifier or quantity expression, such as *usually*, *in the majority of cases* and the like, no matter how vague/probabilistic.

**<u>Proposal.</u>** We propose to address the key question about a semantics of characterizing genericity from the point of view of the cognitive agent's $A$ stance on exceptions to the generically-predicated property $p$. Specifically, we argue that $A$'s stance on exceptions to $p$ (Fig.1) systematically correlates (*i*) with different types of generalizations, and (*ii*) with different natural language expressions (Q-Adverbs, affixes, i.a.) signaling the type of generalization a sentence expresses.

For concreteness, assume that 'Strong Generalizations' (*SG*) are generalizations permitting no exceptions, i.e. *SG*s are prototypical cases of RULES/REGULATIONS (*R&R*) generics (*sensu* Carlson 1995), which categorically exclude exceptions (2a)/① (Fig.1).

Fig.1: *Generic Statements $\sim$ Epistemic States of A w.r.t. $p$*

① *R&R*   ② *Induction*
$K_A[SG(p)]$   $\neg K_A[SG(p)]$

③ *Knowledge about Excp*   ④ *Ignorance about Excp*
$K_A \neg [SG(p)]$   $\neg K_A \neg [SG(p)]$

Hence, for any *SG* and cognitive agent $A$, the issue of exceptions does not (meaningfully) arise. If it does, she can take one of the three possible stances: (*i*) express no commitment w.r.t. whether the expressed generalization $p$ prohibits/allows exceptions ②; (*ii*) commit herself to the knowledge of exceptions, ③; or (*iii*) explicitly signal her ignorance concerning a categorical absence of exceptions, ④. If this hypothesis is right, then this would seem to suggest that we need recognize different subtypes of generic statements, which in turn provides new independent support for claims (Pelletier 2009, i.a.) that a unified semantic analysis of characterizing generics might not be viable. Specifically, our results point to a divide between RULES/REGULATIONS and INDUCTIVE generalizations (*sensu* Carlson 1995). Consequently, we suggest, learning of generalizations may proceed by either learning some RULES/REGULATIONS (2a)) or by INDUCTION (1b) (Carlson 1995); different types of generalizations are amenable to one or another, depending largely on their BASE (*sensu* Carlson 2008).

**Evidence.** Our main evidence comes from dedicated generic markers attested in a number of languages (Filip *t.a.*, and references therein, *pace* Dahl 1995), focusing on the Czech VERB-suffix VA. VA is not a marker of imperfective aspect, as it has properties that clearly separate it from the (partly) homonymous grammatical imperfective suffix, neither can it be treated as an iterative/frequentative marker, due to its intensional properties; moreover, any reductive analysis in terms of a single quantifier fails, because, among others, it is freely compatible with Q-adverbs of any frequency, including very low one (e.g. *rarely*; Filip *t.a.*). Formally unmarked generics in Czech (i.e., verb forms without VA, imperfective or perfective) are compatible with all epistemic states in Fig.1, an observation that is possibly true across-the-board for unmarked generics in all languages, which raises the following question: 'How do we motivate the use of formally marked generic forms to express characterizing generics, when they can also be expressed by related forms that are unmarked for genericity?' First, VA is unacceptable with exceptionless statements, ①, as in the case of analytical truths, constitutive rules, etc. (3):

(3) *Trojuhelník* { *má / #mívá* } *tři strany.*
    triangle        has    has.VA    three sides
    'A triangle (#usually) has three sides'

Moreover, VA requires that there be verifying instances of the generically-predicated property in the actual world, which is best shown by the fact that a purely dispositional reading predicated on their absence is unacceptable:

(4) *Tento stroj   drtí    pomeranče*      (5) *Tento stroj   drtívá    pomeranče*
    this   machine crushes oranges              this   machine crush.VA oranges
    'This machine crushes oranges                   'This machine usually crushes oranges
    ...✓'but we haven't used it yet'                  ...✗'but we haven't used it yet'

We submit that the generic-VA in Czech is a morphological marker of *inductive* generalizations, and, due to its specific lexical semantic properties (see above), it only allows two epistemic attitudes wrt. to exceptions: **either** $A$ knows for sure that a generalization $p$ has exceptions, and therefore is not *SG* (hence not R&R), **or** $A$ is ignorant about whether $p$ has no exceptions. In the first case, VA signals $A$'s commitment to exceptions, ③; it then follows that generics with well-known positive counter-instances (*sensu* Leslie 2008) are obligatorily marked with VA, (6a) (but cf. (3)). In the second case, VA signals $A$'s commitment to ignorance concerning a categorical absence of exceptions ④; the use of VA is here motivated by the fact that the corresponding unmarked VA-less form is compatible with commitment to **no** exceptions, ①.

(6) a. Knihy bý**va**jí brožované.          b. Jan kouří**vá** po večeři.
       'Books are **typically** paperback.'      'John **often/usually** smokes after dinner.'

**Conclusion.** By factoring in $A$'s stance on exceptions, they become not only tractable, but also support a classification of different types of generic sentences, according to the different information they signal about $A$'s commitment to the strength of the generalization itself. The resulting relationship between un/-marked generics is reminiscent of other un/-marked pairs elsewhere, where the role of the marked form is to contribute an epistemic commitment. For instance, consider the pair *three* vs. *at least three*. Whereas propositions, such as *n Fs G*, are true in all instances where the corresponding modified number is true, as in *at least n Fs G*, by uttering the latter the speaker is committing herself to be ignorant as to how many *Fs* are in fact *G*. Among similar examples are: ordinary vs. epistemic indefinites (e.g. *ein* vs. *irgendein* in German), and ordinary vs. epistemic numbers (*twenty* vs. *twenty-some*).

REFERENCES. Carlson (1995). *Truth-conditions of generic sentences.* ___ (2008). *Patterns in the Semantics of Generic Sentences.* Dahl (1995). *The Marking of the Episodic/Generic Distinction in Tense/Aspect Systems.* Filip (t.a.) *Grammaticalization of Generic Markers.* Krifka et al. (1995) *The Generic Book.* Lawler (1973). *Studies in English Generics.* Leslie (2008). *Generics: Cognition and Acquisition.* Pelletier (2009) *Kinds, Things and Stuff.*